

## CLAIMS

What is claimed is:

- 5           1.     In a computer system, a method for scheduling tasks, said method comprising:
- a)     a background task registering at least one registered service, said background task invoked by a kernel of said computer operating system in a dedicated pre-assigned time slice, said computer operating system
- 10    comprising said background task and a foreground task, said background task being scheduled independent from the operation of said foreground task, said background task for providing an execution presence and a data presence to a registered service;
- b)     said background task ranking said registered service according to
- 15    the requirements of said registered service; and
- c)     said background task allocating said execution presence and said data presence accordingly to each of said registered services such that each of said registered services is given an opportunity to be scheduled in said dedicated pre-assigned time slice.
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2.     A method as recited in Claim 1 further comprising the step of said background task searching for at least one said service associated therewith.

3. A method as recited in Claim 1 wherein said computer system is a portable electronic device.

4. A method as recited in Claim 1 wherein said data presence is an A5-based global variable context.

5. A method as recited in Claim 1 wherein said service is a system-related activity.

6. A method as recited in Claim 1 wherein said service is an interrupt-related activity.

7. A method as recited in Claim 1 wherein said service is a background-related activity.

8. A method as recited in Claim 1 further comprising the step of periodically repeating said steps a) through c).

9. A method as recited in Claim 2 further comprising the step of periodically repeating said step of said background task searching for at least one service associated therewith.

10. A method for scheduling tasks comprising:

a) a task registering at least one registered service, said task invoked by a kernel of said computer operating system in a dedicated pre-assigned time slice, said task for providing an execution presence and a data presence to said registered service;

5 b) said task ranking said registered service according to the requirements of said registered service; and

c) said task allocating said execution presence and said data presence accordingly to each of said registered services such that each of said registered services is given an opportunity to be scheduled in said dedicated  
10 pre-assigned time slice.

11. A method as recited in Claim 10 further comprising the step of said task searching for at least one said service associated therewith.

15 12. A method as recited in Claim 10 wherein said computer system is a portable electronic device.

13. A method as recited in Claim 10 wherein said data presence is an A5-based global variable context.

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14. A method as recited in Claim 10 further comprising the step of periodically repeating said steps a) through c).

15. A method as recited in Claim 11 further comprising the step of periodically repeating said step of said background task searching for at least one service associated therewith.

5 16. A computer system comprising:

a processor coupled to a bus;

a memory unit coupled to said bus having stored therein an operating system executed by said processor and a background task executed by said processor; wherein said background task performs a method comprising:

10 a) registering at least one registered service, said background task invoked by a kernel of said computer operating system in a dedicated pre-assigned time slice, said computer operating system comprising said background task and a foreground task, said background task independent from the operation of said foreground task, said background task for providing  
15 an execution presence and a data presence to a registered service;

b) ranking said registered service according to the requirements of said registered service; and

c) allocating said execution presence and said data presence accordingly to each of said registered services such that each of said  
20 registered services is given an opportunity to be scheduled in said dedicated pre-assigned time slice.

17. A computer system as recited in Claim 16 wherein said background task further performs the step of searching for at least one said service associated with said background task.

5 18. A computer system as recited in Claim 16 wherein said computer system is a portable electronic device.

10 19. A computer system as recited in Claim 16 wherein said data presence is an A5-based global variable context.

20. A computer system as recited in Claim 16 wherein said service is a system-related activity.

15 21. A computer system as recited in Claim 16 wherein said service is an interrupt-related activity.

22. A computer system as recited in Claim 16 wherein said service is a background-related activity.

20 23. In a computer system, a method for scheduling tasks, said method comprising:

a) cycling through a set of pre-assigned time slices to schedule a set of tasks comprising a background task and a foreground task, each of said

tasks assigned to one of said time slices wherein scheduling of said background task is independent from the scheduling of said foreground task; and

- b) scheduling execution of a service manager operating on said background thread wherein said step b) comprises the step of:

b1) said service manager scheduling a set of services that are registered therewith for execution within its time slice, wherein said set of registered services may be dynamically updated; and

- b2) said service manager allocating a data presence to each of said set of services registered therewith.

24. A method as recited in Claim 23 wherein said computer system is a portable electronic device.

25. A method as recited in Claim 23 wherein said data presence is an A5-based global variable context.

26. In a computer system having a number of foreground applications executing, a method for scheduling tasks, said method comprising comprising:

- a) a kernel of an operating system scheduling a plurality of tasks for execution on said computer system within respective time slices, said plurality of tasks being static in definition and one of said tasks being a service manager;

b) a plurality of applications dynamically registering with said service manager; and

c) said service manager, when itself executing in its time slice, scheduling for execution said plurality of applications based in a priority,

5 wherein applications are scheduled for execution by said service manager in a manner independent from any of said foreground applications.

10 27. A method as recited in Claim 26 wherein said plurality of applications comprise a system service, an interrupt service and a background service.

28. A method as recited in Claim 26 wherein said computer system is a handheld computer system.

15 29. A method as recited in Claim 26 wherein said step b) comprises the step of said service manager actively discovering said plurality of applications based on registration information associated therewith.